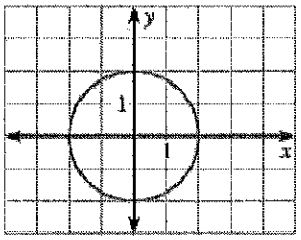
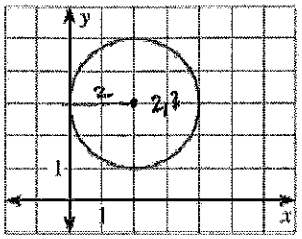
WRITING EQUATIONS Write the standard equation of the circle.

3. 

4. 

#3 $x^2+y^2=4$

#4 $(x-2)^2+(y-3)^2=4$

WRITING EQUATIONS Write the standard equation of the circle with the given center and radius.

10. Center $(-4, 1)$, radius 1 $(x+4)^2+(y-1)^2=1$

13. Center $(3, -5)$, radius 7 $(x-3)^2+(y+5)^2=49$

WRITING EQUATIONS Use the given information to write the standard equation of the circle.

17. The center is $(0, 0)$, and a point on the circle is $(0, 6)$.

#17 $x^2+y^2=r^2$

$0+36=r^2$

$36=r^2$

$x^2+y^2=36$

19. The center is $(-3, 5)$, and a point on the circle is $(1, 8)$.

#19 $(x+3)^2+(y-5)^2=r^2$

$(1+3)^2+(8-5)^2$

$16+9$

$25=r^2$

$(x+3)^2+(y-5)^2=25$

GRAPHING CIRCLES Graph the equation.

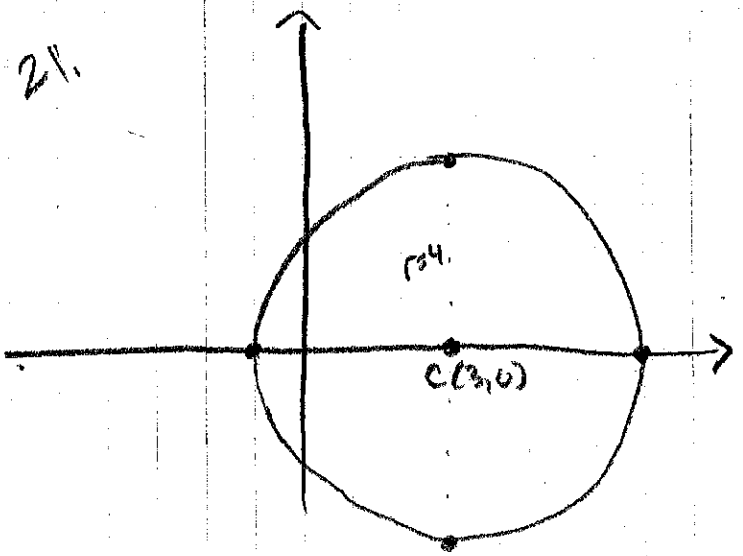
21. $(x-3)^2+y^2=16$ $C(3,0)$ $r=4$

23. $(x-4)^2+(y-1)^2=1$ $C(4,1)$ $r=1$

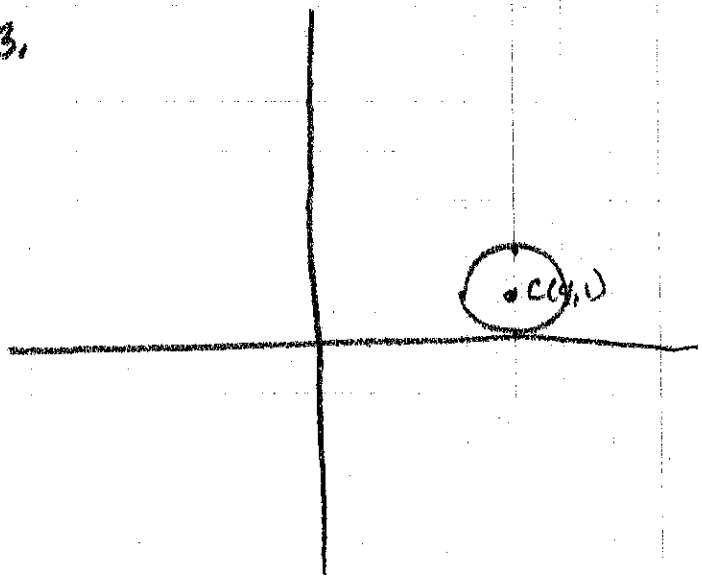
IDENTIFYING LINES Use the given equations to determine whether the line is a *tangent, secant, secant that contains a diameter,* or *none of these.*

31. Circle: $(x-4)^2+(y-3)^2=9$
Line: $y=-3x+6$ $C(4,3)$ $r=3$

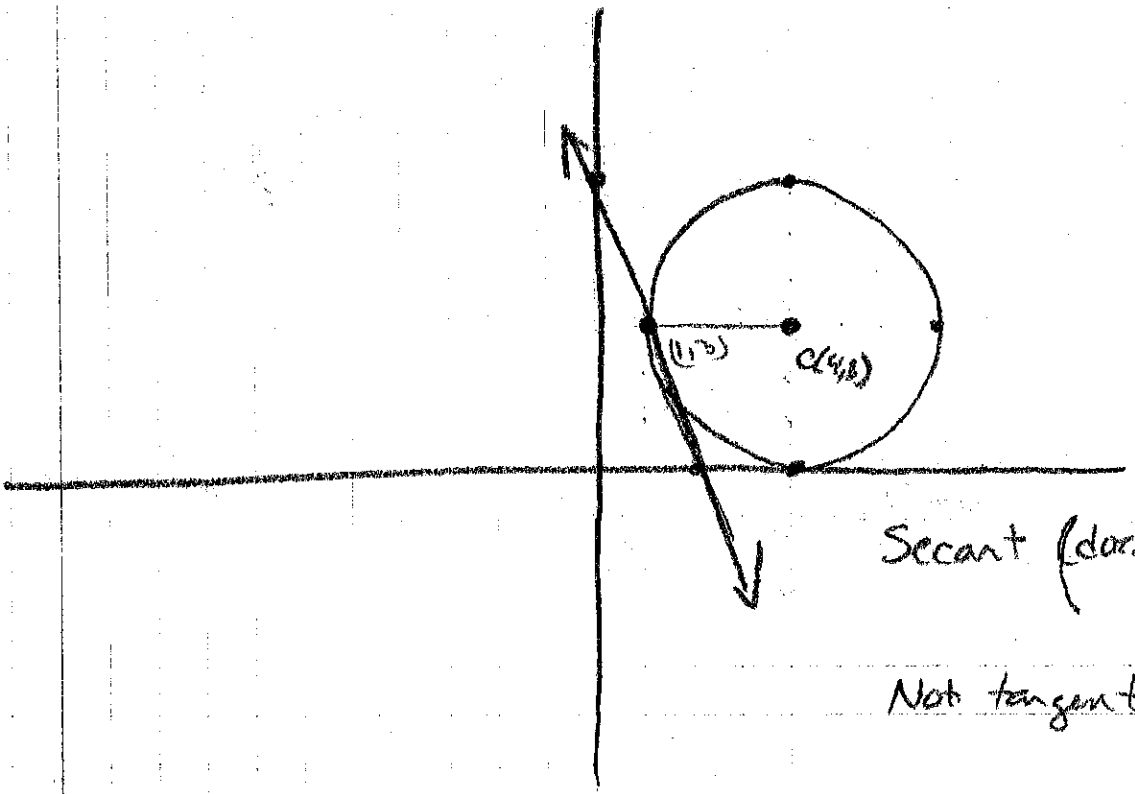
21.



23.



31.



Secant (does not contain diameter)

Not tangent (1, 3) slope would need to be undefined